M E D I C A L

N E W S L E T T E R

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With this first edition the Office of Medical Services inaugurates a short newsletter that includes points of importance concerning health, physical fitness, and general well-being. Subsequent issues are planned on a quarterly basis.

OBESITY - ITS RELATIONSHIP TO HEART DISEASE AND HEALTH

Coronary artery disease affects more than 20 million people in the United States, and each year more than 600,000 persons die from myocardial infarction or "heart attack." The major factors recognized as predisposing to the development of coronary artery disease are hypertension (high blood pressure), smoking, obesity, increased blood lipids (cholesterol and triglycerides), lack of exercise, elevated levels of uric acid, diabetes mellitus, and a family history of heart disease.

In a recent study of heart disease patients at the Sacramento, California Medical Center, the factor associated most dramatically and significantly with heart disease, as compared with the normal, was obesity; this was especially true in patients with premature vascular disease. The effects of obesity on many of the other recognized "risk factors" are well-known and obesity may be the link that connects some of the other abnormalities together.

In another study at the Massachusetts Institute of Technology Clinical Research Center conducted by Dr. Robert S. Lees, it was found that weight reduction in obese patients

who were only 7 to 18% over ideal body weight, produced a partial or complete return of blood lipids to normal in those patients who had elevated levels at the beginning of the study. This reduction in blood fats was accomplished without attempting to alter the percentages of saturated fats, unsaturated fats or cholesterol in the diet. Other benefits from weight reduction in his study were generally improved feelings of well-being, increased physical activity, significant blood pressure reductions, mild decreases in blood sugar levels, and drops in uric acid levels. Obesity, then, may indeed predispose an individual to premature heart disease and weight reduction will lower toward normal several of the other important risk factors for coronary artery disease.

There are known and measurable effects of obesity on the cardiovascular system in general. In very obese subjects, there are consistent increases in cardiac or heart work which may result in heart enlargement and even heart failure. Underbreathing in the very obese person (Pickwickian Syndrome) may result in somnolence, twitchings, alterations in blood counts, heart enlargement, and heart failure. Increased blood pressure is common in the very obese and, as mentioned, may be reduced by weight loss. Indeed, most circulatory derangements associated with obesity can be reversed or significantly improved by weight reduction.

In addition to the effects of obesity on the heart and vascular system, there are also adverse effects on health in general. Insurance companies have given us the most information regarding the general medical significance of obesity. Actuarial studies have shown that mortality in men aged 15 to 69 is 1/3 higher in those 20% or more overweight than "standard risk" men, and mortality is 1/5 greater among men 10% or more overweight. When overweight men are compared to men with the most ideal weights, rather than "standard risk" men, the excess mortality is nearly 1/2 for those 20% or more overweight and 1/3 for those 10% or more overweight. This increase in mortality is associated with diabetes, gastrointestinal diseases, strokes and heart disease. Surgical procedures are more difficult in the obese individual and also account for some of the increased morbidity and mortality.

In short, then, obesity is not only a problem of physical appearance, but more importantly, it is related to increasing morbidity and mortality for the obese person. Fortunately, these adverse factors associated with obesity are reversible in large measure. Obesity however is not always a simple

matter of overeating and may be associated with psychic or endocrine disorders. Therefore, reversal by weight reduction under medical supervision is strongly advised.

No discussion of obesity would be complete without a list of desirable weights. A table of desirable weights from the Metropolitan Life Insurance Company is reproduced below.

Fad diets are numerous; they are often however not successful and they do not establish good eating habits which are necessary to maintain ideal weights later on.

Some general facts of interest to the weight watcher are listed below.

(1) If we take in more calories than our bodies need the excess is stored as fat.

(2) With increasing age, metabolism and physical activity usually decrease, even though the level of appetite remains the same. Therefore, weight increases as a person takes in more food than he needs.

(3) Surplus calories regardless of whether they come from protein, carbohydrate or fat, are stored as fat.

(4) Overweight people have a shorter life expectancy, and are more prone to the vascular and degenerative diseases.

(5) Proteins and carbohydrates contain four calories per gram and fat contains nine calories per gram.

(6) Overweight people often eat too rapidly and have consumed large amounts of food before their body appetite regulating centers have a chance to act and reduce appetite.

(7) Too rapid weight loss often indicates a loss of muscle protein instead of fat. An ideal weight loss is between one to two pounds per week.

(8) Alcohol has no nutritional value and an eight-ounce glass of beer provides an extra 115 calories.

(9) Moderate exercise does not increase appetite and is a good way to maintain a desirable weight and keep fit.

Desirable Weights

WOMEN 25 years of age and over (indoor clothing)

HEIGHT (shoes on)		SMALL FRAME	MEDIUM FRAME	LARGE FRAME
Ft.	In.			
4	10	92—98	96—107	104—119
4	11	94—101	98—110	106—122
5	0	96—104	101—113	109—125
5	1	99—107	104—116	112—128
5	2	102—110	107—119	115—131
5	3	105—113	110—122	118—134
5	4	108—116	113—126	121—138
5	5	111—119	116—130	125—142
5	6	114—123	120—135	129—146
5	7	118—127	124—139	133—150
5	8	122—131	128—143	137—154
5	9	126—135	132—147	141—158
5	10	130—140	136—151	145—163
5	11	134—144	140—155	149—168
6	0	138—148	144—159	153—173

MEN 25 years of age and over (indoor clothing)

HEIGHT (shoes on)		SMALL FRAME	MEDIUM FRAME	LARGE FRAME
Ft.	In.			
5	2	112—120	118—129	126—141
5	3	115—123	121—133	129—144
5	4	118—126	124—136	132—148
5	5	121—129	127—139	135—152
5	6	124—133	130—143	138—156
5	7	128—137	134—147	142—161
5	8	132—141	138—152	147—166
5	9	136—145	142—156	151—170
5	10	140—150	146—160	155—174
5	11	144—154	150—165	159—179
6	0	148—158	154—170	164—184
6	1	152—162	158—175	168—189
6	2	156—167	162—180	173—194
6	3	160—171	167—185	178—199
6	4	164—175	172—190	182—204

Statistical data from Metropolitan Life Insurance Co.

(10) Skipping meals is a poor way to reduce weight since overeating often occurs at the next meal. Regular meals with smaller portions are more desirable.

(11) On a dietary program, weight should be taken at the same time each day since weight will vary throughout the day because of changes in the total amount of body water.

(12) Seven pounds of body fat hold one pint of water.

(13) Some salt restriction helps weight reduction.

(14) 4,000 calories make up one pound of fat.

(15) As little as 200 calories extra a day will, in the course of one year, lead to a storage of 18 pounds of fat.

(16) Because of our mechanized way of life, our caloric requirements are considerably less than previously; for example, a housewife's work which once required 250 calories an hour, now requires only 120 because of electrical appliances. A person commuting 2-1/2 miles by walking uses up 210 calories; however, when he drives, he uses only 17 calories.

(17) A list of calories spent in various activities is listed below.

Calories per minute for various activities

Resting, Standing and Walking

	Calories per minute		Calories per minute
Resting in bed	1.2	Kneeling	1.4
Sitting	1.4	Squatting	2.2
Sitting, reading	1.4	Walking, indoors	3.4
Sitting, eating	1.6	Walking, outdoors	6.1
Sitting, playing cards	1.7	Walking, downstairs	7.6
Standing	1.6	Walking, upstairs	20.0
Standing, light activity	2.8	Standing, showering	3.7
Working Around the Home			
Washing clothes	2.9	Mopping floors	5.3
Hanging laundry	4.7	Sweeping floors	1.7
Bringing in laundry	3.2	Scrubbing floors	6.0
Machine sewing	1.5	Shaking carpets	6.4
Ironing clothes	4.2	Peeling vegetables	2.9
Making beds	5.3	Stirring, mixing foods	3.0
Do it yourself			
Sawing wood	6.9	Pushing wheelbarrow	5.2
Planing wood	8.6	Chopping wood	4.9
Carrying tools	3.6	Stacking wood	6.1
Shovelling	7.1	Drilling	7.0
Sports and hobbies			
Football	10.1	Badminton	2.8
Basketball	8.6	Rowing	8.0
Ping pong	4.8	Sailing	2.6
Swimming	12.1	Playing Pool	3.0
Golfing	5.5	Dancing	4.0
Tennis	7.0	Horseback riding	3.0
Bowling	8.1	Cycling	8.0

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HEALTH TOPICS

"Jet Lag"

To minimize the effects of "jet lag" or circadian rhythm disturbances in persons who air-travel long distances, Dr. George Catlett, New York regional medical director of United Air Lines, recommends that the traveller depart well-rested and that he plan no strenuous activities during the first 24 hours after arrival.

Because many body functions have approximately a 24-hour cycle (circadian rhythm), travel from one time zone to a significantly different one may be associated with a number of symptoms including fatigue, paradoxical insomnia, loss of appetite, dizziness, blurred vision, and at times confusion or depression. Shortening of the environmental cycle produces, usually, a more pronounced change than lengthening it. Flyers often report more difficulty when flying west to east, for example.

It is suggested that travellers choose daylight departures, and eat and drink with moderation before and during the flight. The problem is self-limited, and generally, "rest without napping during the daylight hours of the new time cycle and sleep after nightfall are usually all that is required".

Alcohol May be Harmful to Cardiac Patients

A group at Fordham Hospital in New York has found that 10 heart patients pumped less blood one half hour after drinking two ounces of chilled whiskey compared to pre-drinking levels. Contrary to popular belief, in this group of heart disease patients, alcohol acted as a blood vessel constrictor, rather than a dilator. Four normal persons showed the expected results from alcohol, namely a dilatation of blood vessels and an increase in volume of blood pumped.

At Mount Sinai Medical School, acute heart muscle deterioration has been observed in normal non-alcoholic persons who drank heavily over a period of one month. There was a return to normalcy following cessation of drinking.

The Surgeon General's Report on the Effect of Smoking on Non-Smokers

The United States Public Health Service Surgeon General's most recent report on cigarette smoking reinforces evidence of tobacco links to lung cancer, unsuccessful pregnancy, and coronary heart disease. It also describes the plight of the non-smoker surrounded by smokers. The burning of a fair amount of tobacco in a confined, unventilated space can clearly push the carbon monoxide concentration to and over the threshold limits set by Federal law for occupational exposure. There is some risk, for example, for a non-smoker riding in a closed car full of smokers. The levels of carbon monoxide exposures are not too different from those that have been associated with altered hearing, visual acuity loss, and a loss of ability to distinguish brightness. At carbon monoxide levels similar to those at an average party, heart disease patients show symptoms of heart muscle oxygen lack. It is clear that in a closed environment, the smoker may place at risk not only himself but also those around him.

Use of Marijuana May Disrupt Sleep

A study supported by the Navy suggests in its preliminary report that marijuana significantly disrupts normal sleep patterns. Laboratory animals had less deep sleep as a result of the chronic administration of marijuana. In human subjects studied to date, there was significantly less deep sleep after seven days of daily marijuana usage. During the recovery week, significant loss of deep sleep was still observed.

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